

5451

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: South Carolina

DESCRIPTIVE REPORT

Topographic
Hydrographic

Sheet No.

15-A

LOCALITY

Back River

Charleston, S. C.

1934

CHIEF OF PARTY

Lt. M. O. Witherbee

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
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REG. NO. 5451

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 15-A

REGISTER NO. 5451

State South Carolina

General locality Charleston, S. C.

Locality Back River

Scale 1-10,000 Date of survey Feb. - Mar., 19 34

Vessel Shore Party No. 2

Chief of Party Lt. E. C. Witherbee

Surveyed by Ensign Edward B. Brown, Jr.

Protracted by C. J. Harryman

Soundings penciled by H. L. Beck, Jr.

Soundings in fathoms feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by

Inked by James M. McLean Jr.

Verified by James M. McLean Jr.

Instructions dated November 2, 1933

Remarks: Survey and descriptive report under direction of
Lt. E. C. Witherbee. Smooth plotting under direction
of Lt. Benjamin H. Rigg.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. 15-A

DATE OF INSTRUCTIONS - November 2, 1933.

LIMITS - The work on this sheet completes Back River from the northern limit of the hydrography of R. F. A. Studds in 1928 to the limits of navigation. This area was shown with a dashed line on chart No. 680 1239.

SURVEY METHODS - Control for this sheet was obtained by a scheme of triangulation beginning at the northern limit of the triangulation executed by R. F. A. Studds in 1928 and extending to the limits of the work on this sheet. Additional hydrographic signals, Point, Tax, Hog, High, and Sow, shown in blue were located on the boat sheet and the smooth sheet by plotting theodolite cuts with a steel protractor. These cuts are listed in Vol. 1 of the sounding record. This method of obtaining additional hydrographic signals was used because the shoreline was obtained from aerial-photographs, and the additional cost of obtaining locations by topography was not considered justifiable, considering the importance of the area.

DISCREPANCIES - On "a" day, upon applying the shoreline to the smooth sheet, it was found that position 42a did not agree with the compiled shoreline. As this is an area of relatively little importance, and as the photograph in this area was found very true to scale, position 42a was rejected, and the sounding line plotted to agree with the shoreline. ✓

CHANNELS - Back River is of very little use as a navigatable stream. Its banks consist of wide, soft mud flats covered with tall marsh grass that makes landing with a small boat almost impossible. The controlling depth at the vicinity of Point is 4'. In the vicinity of Dig it is 2'. In the vicinity of Kil it is 1'.

The eastern fork goes dry at lat. $33^{\circ} 02.6'$. The western fork narrows down at lat. $33^{\circ} 02.9'$ so that only a pulling boat could proceed any farther.

This is an original survey in both Cooper River and Back River.

*Cooper River is
shown on H-5450
A.C.S.*

TIDES - Tide reducers were obtained from a staff located 50 meters east of ○ Dig.

STATISTICS -

Vol. No.	Statute Miles	No. of Soundings	No. of Positions
1	31.2	1732	298
2	<u>9.5</u> 40.7	<u>480</u> 2212	<u>93</u> 391

Respectfully submitted by,

Edward B. Brown, Jr.
Ensign Edward B. Brown, Jr.

Lt. M. O. Witherbee
Chief of Party
H. & G. Engineer

Forwarded by,

William H. Rigg
Lt. William H. Rigg
Chief of Party
H. & G. Engineer.

260
October 1, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5451

Locality Back River, Cooper River, S. C.

Chief of Party: M. O. Witherbee in 1934
Plane of reference is mean low water, reading
2.0 ft. on tide staff at Back River
~~ft. on tide staff at Back River~~
No bench marks were established

Height of mean high water above plane of reference is 6.3 ft.

Condition of records satisfactory except as noted below:

Hammer
Acting Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. H-5451

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet391
Number of positions checked27
Number of positions revised 0 1
Number of soundings recorded2212
Number of soundings revised6
Number of signals erroneously plotted or transferred1

Date: *Nov. 1, 1934*

Cartographer: *James M. J. Green*

Verification of protracting

Verification & inking of rocks and shoals) by *J. M. J. Green*

Time: 10 hrs.

Verification ^{and} of inking by *J. M. J. Green*

Time: 16 hrs.

Review by *John G. Ladd*

Time: 4½ hrs.

Survey No. H-5451

Chart No. 680

Diagram No. 1239-2

Name Back River
approved Nov. 6, 1934

H Bacon

R, Referred to the Division of Geographic Names, Department of Interior.

(M 100)

Verification Report of H. 5451.


1. The soundings recorded were neat and legible and conformed to the general instructions given in the Hydrographic Manual. ✓
2. The one and two fathom curves could be completely drawn ^{as well as the} ~~zero curve was broken in places due to absence of sounding near the banks of the river.~~ ✓
3. Field plotting was very complete with few mistakes or omissions. Hydrographic stations cut in with a theodolite by hydrographic party were checked and found to be correct. ✓

Approximately half of the soundings recorded were not plotted and in several instances the spacing of plotted soundings was not accurate. ✓

A 17' sounding at 45b, Vol. 1, page 25, was omitted as there was no evidence to show that the water was that deep in the locality. ^{the 17 ft. sounding apparently erroneous as it is surrounded by 2 and 3 ft soundings at this point not plotted.}

All $+\frac{1}{2}$ and $-\frac{1}{2}$ soundings were penciled on the smooth sheet as such. These were inked in as 0 soundings.

4. The sheet was compared with the boat sheet and checked very closely. A number of positions were retracted and only one found to be incorrectly located. This was 18E, Vol. 2, Page 23, probably due to wrong Δ sighted. ✓
5. Sheet H. 4909, which joined the south side of the sheet, made a satisfactory overlay. ✓
6. Good crossings were obtained in all places. A visual check of the shore line was made against airphoto compilation, scale 1:20,000, and found to agree very closely. ✓



James M. McQueen, Jr.
November 2, 1934.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5451 (1934).

Black River, Charleston, South Carolina.
Instructions dated November 2, 1933 (NATOMA).

Surveyed - Feb. - Mar. 1934.

Hand Lead soundings and 3 Point Fixes on Shore Signals.

Chief of Party - M. O. Witherbee.

Surveyed by - E. B. Brown, Jr.

Protracted by - C. J. Harryman.

Soundings penciled by - H. L. Beck.

Verified and inked by - J. M. McQueen, Jr.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that evidence that the hydrographic signals were checked in the field was lacking since the initials of the checker were not shown on the sheet. This checking has been done in the office.

2. Compliance With Instructions for the Project.

The survey satisfies the instructions for the project.

3. Sounding Line Crossings.

The cross lines are satisfactory.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including the zero foot curve.

5. Junction With Contemporary Surveys.

A satisfactory junction is made with H. 4909 (1928) on the south. There is no junction on the north as this survey H. 5451 (1934) extends to the limits of navigation.

6. Comparison With Prior Surveys.

There is no prior survey of the area covered by H. 5451 (1934).

7. Comparison With Chart No. 680.

The chart contains no hydrography within the limits of H. 5451 (1934).

8. Field Plotting.

The field plotting was satisfactory.

9. Additional Field Work Recommended.

No additional field work is recommended.

10. Superseding Old Surveys.

There are no surveys to be superseded.

11. Reviewed by - John G. Ladd, November 1934.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, *C. K. Green*
Acting Chief, Field Records Section.

Frank S. Bond
Chief, Section of Field Work.

L. O. Lobbut
Chief, Division of Charts.

G. F. Rude
Chief, Division of H. & T.

25 Jan 23, 1936
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